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The Relationship Between Eating Disorders and Ego Development

Mary Denise Sparks
Utah State University

THE RELATIONSHIP BETWEEN EATING DISORDERS AND EGO IDENTITY DEVELOPMENT

by

Mary Denise Sparks

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Mary Denise Sparks

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ABSTRACT

The Relationship between Eating Disorders and Ego Identity Development

by

Mary Denise Sparks, Doctor of Philosophy

Utah State University, 1993

Major Professor: Dr. David M. Stein
Department of Psychology

The age of onset for eating disorders (anorexia and bulimia nervosa) among females is typically late adolescence. In the present study, it was hypothesized that the onset of eating disorders is related to the late-adolescent developmental task of identity development. Thirty-three late adolescent and young adult females who met DSM-III-R criteria for an eating disorder (anorexia nervosa, bulimia nervosa, or eating disorder not otherwise specified) and 33 control females completed the Extended Objective Measure of Ego Identity Status -- 2 (EOMEIS-2). Results of chi square analyses revealed no significant differences between eating disorder and control females with regard to status of identity development. However, when identity status subscale scores were treated as continuous variables, several

significant between-group mean differences emerged. In line with expectations, eating disorder subjects scored higher on ideological diffusion and moratorium, and they scored lower on ideological achievement. Eating disorder subjects also scored higher on interpersonal diffusion and lower on interpersonal achievement. In addition, there were significant correlations between ideological diffusion and measures of depression and anxiety. Unexpectedly, there were also significant correlations between ideological moratorium and measures of depression, anxiety, social alienation, family discord, and borderline personality symptomatology. The possible implications of these results for understanding frequently occurring, co-morbid symptoms in eating disorder subjects are discussed.

(134 pages)

INTRODUCTION

During the past decade, the eating disorders (bulimia nervosa and anorexia nervosa) have become widely known as problems experienced by adolescent and young adult females. Data from published studies suggest that the mean age of onset for bulimia nervosa is 18.1 years with a standard deviation of 3.6 years (Johnson, Stuckey, Lewis, & Schwartz, 1982; Haimes & Katz, 1988; Katzman & Wolchik, 1984; Post & Crowther, 1985; Pyle, Mitchell, & Eckert, 1981; Weisberg, Norman, & Herzog, 1987; Weiss & Ebert, 1983). Regarding anorexia nervosa, Halmi, Casper, Eckert, Goldberg, and Davis (1979) reported bimodal risk ages of onset at 14 and 18 years. Garfinkel and Garner (1982) reported a trend toward increased average age of onset for anorexia nervosa. According to their data, from 1970 through 1975 the average age of onset was 17 with a standard deviation of 3.7, and from 1976 through 1981 the average age of onset was 18 with a standard deviation of 4.2. In 1988, Haimes and Katz found a mean age of onset of 18.1 years with a standard deviation of 2.8.

Numerous authors have suggested that the onset of eating disorders is related to problems and conflicts associated with achieving the normal developmental tasks of late adolescence (Bruch, 1977; Casper, 1983; Garfinkel & Garner, 1982; Garfinkel & Garner, 1983; Johnson &

& Garner, 1982; Garfinkel & Garner, 1983; Johnson & Connors, 1987; Sugarman & Kurash, 1982; Johnson, 1985).

Erik Erikson (1956, 1963, 1968), a prominent developmental theorist, suggested that the primary developmental task of late adolescence is that of ego identity development. He defined identity as a "sense of continuity and sameness" about oneself. Specifically, ego identity is based on long-term commitments in such arenas as occupation, sex role, religious ideology, and political ideology (Erikson, 1968).

To date, only Weinreich, Doherty, and Harris (1985) have reported research on the relationship between identity development and eating disorders. They utilized the Identity Structure Analysis which measures such constructs as self-esteem, self-evaluation, and conflicts in identification. The instrument is reported to reflect three major theoretical orientations: (a) Erikson's theory, (b) the symbolic interactionist perspective of the situated self, and (c) personal construct psychology. Weinreich et al. found that both anorexic and bulimic females had higher levels of conflict in identification with significant others than did control females. In addition, they found that anorexic females were experiencing diminishing self-evaluations.

In 1966, Marcia reported on the development of an instrument in which the constructs of ego identity

development -- as formulated by Erikson -- were operationalized. Accordingly, ego identity can be understood in terms of four statuses. First, moratorium is a time of exploration, which is popularly referred to as "identity crisis." Moratorium is conceived to be a normative status for late adolescents. Second, identity achievement is the culmination of the exploration process in which various commitments contribute to a unique identity. The third status is foreclosure, in which the normal crisis and exploration of identity issues appear to be so anxiety-provoking that the adolescent fails to pursue the exploration process. Rather, he or she adopts identity commitments, choices, and beliefs, based primarily on family or cultural dictates. Finally, the diffusion status is one in which the individual has neither engaged in a moratorium period nor made significant identity commitments. Erikson (1968) suggested that diffused individuals lack sufficient ego strength to engage in identity exploration and are the most likely to suffer serious psychopathology -- particularly borderline personality organization.

Since its original development, Marcia's ego identity interview has been objectified (Adams, Shea, & Fitch, 1979), extended (Grotevant, Thorbecke, & Meyer, 1982), and revised (Grotevant & Adams, 1984; Bennion & Adams, 1986). These various versions have been used in an extensive line

of research with adolescents. However, no reports are apparently available in which any of the above has been used to assess identity development in females with eating disorders.

Given that little is known about the status of ego identity development in females with an eating disorder, a literature review was conducted to address the following question: From the research on the behavioral and psychological characteristics of females with eating disorders and the research on the behavioral and psychological characteristics of subjects at various statuses of ego identity development, can a relationship between the two be inferred?

REVIEW OF LITERATURE

Goal of the Literature Review

The present review will outline areas of conceptual overlap and similarity between two bodies of research. Of interest are similarities between the literature on psychological characteristics of persons categorized in the various ego identity statuses and the research outlining prominent psychological characteristics of females with eating disorders.

Review Procedures

Bulimia nervosa has been found to be more prevalent among young women than anorexia nervosa. Pyle, Neuman, Halvorson, and Mitchell (1991) reported that 2.2% of female college freshmen have bulimia nervosa and .1% have anorexia nervosa. Therefore, the initial review included literature specific to females who met criteria for bulimia nervosa as defined by the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Third Edition (DSM-III), which was published in 1980; therefore, this review only includes articles that have been published from 1980 to the present. In 1987 the American Psychiatric Association published a revision to the third edition of DSM-III: DSM-III-R. The revised criteria for bulimia nervosa are somewhat stricter than

those of DSM-III (see appendix A). However, at the time this review was completed, most of the relevant literature on the psychological characteristics of bulimics utilized DSM-III criteria.

All of the articles identified for this review dealt exclusively with female bulimics. Only articles in which bulimics were compared with a control group were included. The intention was to avoid confusion between the characteristics of normal adolescent females and the unique characteristics of bulimics.

Particular studies regarding the characteristics of bulimics were deemed relevant to the present review if the same characteristics were also studied in the separate literature on ego identity development.

With regard to the ego identity status literature, reports of studies were reviewed if the four ego identity statuses were identified using one of the previously described measures and compared on a given variable. Again, articles were only included if the characteristics under study were also studied in the bulimia literature.

Some of the studies reviewed included both male and female subjects. However, when results were reported separately, only results pertaining to female subjects were included in this review because all of the subjects were female in the reviewed bulimia studies.

Nine constructs were identified that have been studied in both lines of research. Therefore, comparisons can be made regarding: (a) sex role orientation, (b) intimacy versus loneliness and alienation, (c) self-esteem, (d) self-consciousness, (e) anxiety, (f) attentional style, (g) locus of control, (h) family relationships, and (i) substance use.

In this section, each construct will be discussed in terms of theoretical links between bulimia and status of ego identity development. Results are reported as significant if the attained level of statistical significance was .05 or smaller. When sufficient data were reported, effect sizes were calculated.

Sex Role Orientation

The first variable reviewed is sex role orientation. Five different instruments have been used to assess sex role orientation in bulimics. The authors from studies using four of the five instruments concluded that bulimics do not differ from normal females on this variable. Those instruments are (a) Personality Attributes Questionnaire (Dykens & Gerrard, 1986; Katzman & Wolchik, 1984); (b) Traditional Role Scale (Dykens & Gerrard, 1986); (c) Sex Role Ideology Scale (Srikameswaran, Leichner, & Harper, 1984); and (d) the Minnesota Multiphasic Personality Inventory (MMPI), scale 5 (Dykens & Gerrard,

1986; Mizes, 1988; Norman & Herzog, 1983; Pyle et al., 1981; Scott & Baroffio, 1986; Williamson, Kelley, Davis, Ruggiero, & Blouin, 1985). Standardized mean differences could be computed for scores on the Traditional Role Scale and on the MMPI scale 5. On the Traditional Role Scale the standardized mean difference is .46. On the MMPI, the mean for all of the studies is .29. Therefore, results based on these instruments suggest that bulimics are similar to normal females in their acceptance of the traditional feminine sex role.

However, results from one study (Lewis & Johnson, 1985) in which the Bem Sex Role Inventory (BSRI) was used suggest that bulimics do differ from normals regarding sex role orientation. The BSRI is different from the instruments used in the other studies listed above in that it measures more than two dimensions -- masculinity and femininity. In addition, the BSRI has categories labeled "androgyny" and "undifferentiated." On this inventory, bulimics were significantly less androgynous and less feminine than normals, but significantly more undifferentiated than normals. A standardized mean difference could be computed only for the difference in femininity scores; it is .73. Therefore, it is possible that the BSRI is tapping more complex aspects of sex role orientation than the other instruments and is able to make

finer distinctions among groups with regard to this variable.

In the identity status literature, sex role orientation was addressed in two studies. Schenkel (1975), utilizing the Gough Femininity Scale, discovered a nonsignificant trend for diffusion status subjects to have lower scores on traditional femininity than subjects in the other statuses; however, she failed to clarify whether lower scores represent greater or lesser acceptance of traditional feminine sex roles.

Orlofsky (1977) utilized the Bem Sex Role Inventory and found significant differences between identity statuses: (a) moratorium and foreclosed females scored higher than diffused and achieved females on the femininity scale; (b) achieved females scored higher than all other statuses on the masculinity scale; (c) achieved and moratorium females scored higher than foreclosed and diffused females on the androgyny scale; and (d) diffused females scored higher than all others on the undifferentiated scale.

In comparing the bulimia literature with the ego identity status literature, one possible relationship emerges. Both bulimic and diffused females were more likely to score high on the undifferentiated scale of the

Bem Sex Role Inventory and low on the androgyny and femininity scales.

Intimacy Versus Loneliness and Alienation

Elevated scores on scale 8 of the MMPI are often correlated with social isolation and alienation (Graham, 1987). In a number of studies, bulimics were found to have elevated scores on scale 8 (Dykens & Gerrard, 1986; Mizes, 1988; Norman & Herzog, 1983; Pyle et al., 1981; Scott & Baroffio, 1986; Williamson et al., 1985). Of studies for which the standardized mean difference could be calculated, the mean effect size is 1.63.

The Symptom Checklist 90 (SCL-90) was administered in three studies of bulimics (Johnson et al., 1982; Weiss & Ebert, 1983; Williamson et al., 1985). It includes a scale for interpersonal sensitivity. Bulimics scored significantly higher than normals on this scale in all three studies. The mean of the standardized mean differences for these studies is 2.59. These results indicate that bulimics feel an inordinate level of discomfort in interpersonal relationships.

Johnson and Berndt (1983), utilizing the Social Adjustment Scale, discovered that bulimics scored significantly higher than normals on all scales: work, social and leisure, extended family, marital, parental, and family unit. The overall standardized mean difference

is 1.82. These results indicate that bulimics are more socially maladjusted than normals in all of the above listed areas. Also, using the Experience Sampling Method, Johnson and Larson (1982) discovered that bulimics are significantly more lonely and socially isolated than normals.

However, three studies reported that bulimics are similar to normals in terms of social alienation. Becker, Bell, and Billington (1987) found the two groups to be similar in level of alienation. Katzman and Wolchik (1984) found no difference in dating competence. However, in the Katzman and Wolchik study, the standard mean difference between the two groups is .59 with the bulimic group scoring in the direction of less dating competence. Weiss and Ebert (1983) administered the Social Network Index and found that bulimics have a similar number of close friends to normals.

Four articles in the ego identity status literature examined social alienation and loneliness. In all four studies the Orlofsky Intimacy Interview was used. The results across the four studies are inconsistent. Two found no difference between the identity statuses with regard to level of intimacy in relationships (Craig-Bray, Adams, & Dobson, 1988; Fitch & Adams, 1983). Two found that subjects in the achievement status had significantly

higher levels of intimacy in relationships than subjects in the remaining three statuses (Kacerguis & Adams, 1980; Tesch & Whitbourne, 1982). In addition, Tesch and Whitbourne (1982) found that diffusion status subjects were significantly more isolated than subjects in the other statuses. One possible explanation for the discrepancy in findings among these studies is difference in the age of subjects. The latter two studies, which reported significant differences among groups, appear to have involved subjects who were of college age and older, whereas, the first two studies involved only undergraduate-age subjects.

Craig-Bray et al. (1988) also administered the UCLA Loneliness Scale and the Rochester Interaction Record. They found that moratorium and diffusion subjects were significantly more lonely than other subjects and that diffused subjects experience significantly less intimacy in both same and opposite sex interactions.

In integrating the ego identity status literature with the bulimia literature on this variable, it appears that bulimic subjects and persons in the diffusion (and perhaps moratorium) status experience less intimacy and higher levels of social isolation and discomfort than other subjects.

Self-esteem

While elevations on scale 2 of the MMPI primarily relate to depression, they are also correlated with low self-esteem (Graham, 1987). Authors of six studies (Dykens & Gerrard, 1986; Mizes, 1988; Norman & Herzog, 1983; Pyle et al., 1981; Scott & Baroffio, 1986; Williamson et al., 1985) reported significant elevations on scale 2 among bulimics; the mean of the standardized mean differences is 1.51.

Dykens and Gerrard (1986) found that bulimics scored significantly lower on self-esteem than normals on a number of subscales of the Tennessee Self-Concept Scale; the mean of the standardized mean differences for all subscales is .52.

Bulimics have also scored significantly lower than normals on the Rosenberg Self-Esteem Scale. The average of the standardized mean differences is 1.4 (Crowther & Chernyk, 1986; Gross & Rosen, 1988; Katzman & Wolchik, 1984; Post & Crowther, 1985).

In addition, Weiss and Ebert (1983) found that bulimics scored significantly lower than controls on the Piers-Harris Self-esteem Scale; the mean of the standardized mean differences of the subscales is 1.82.

Within the ego identity status literature, two articles dealt with self-esteem. Inconsistent findings

were reported. Marcia and Friedman (1970), utilizing deCharms and Rosenbaum's Self-esteem Questionnaire, found that subjects in the achievement status scored significantly lower than subjects in the other statuses. This finding directly contradicted the authors' theory-based predictions.

Schenkel and Marcia (1972) added a dimension regarding attitudes toward sexuality to Marcia's original ego identity status interview; they did so on the speculation that this dimension would be important in the ego identity development of females. On the basis of the revised interview, they found a nonsignificant trend for diffused and foreclosed females to score lower in self-esteem than achieved and moratorium females. Subsequent research has verified that attitudes toward sexuality and other interpersonal issues contribute significantly to the assessment of ego identity status (Grotevant et al., 1982; Bennion & Adams, 1986).

In summary, researchers have found that bulimics consistently exhibit lower self-esteem on self-report measures than normals. While the ego identity literature is somewhat ambiguous, it appears that diffused and foreclosed females show a trend toward lower self-esteem than subjects in the other statuses.

Self-consciousness

On the fourth variable, self-consciousness, one study was conducted with bulimics; the Rorschach Inkblot Test was used (Weisberg et al., 1987). The egocentricity index was significantly higher for bulimics than for control subjects, suggesting that bulimics are more intensely self-preoccupied.

With regard to the ego identity status literature, Adams, Abraham, and Markstrom (1987) found achieved subjects to be significantly less self-conscious than other status subjects on the Imaginary Audience Scale, on the Self-as-a-Target Questionnaire, and in a self-referencing laboratory experiment. Diffused subjects were significantly more self-referencing than other subjects on the Self-as-a-Target Questionnaire and in the laboratory experiment.

These data appear to indicate that bulimics and diffused subjects are the most self-conscious.

Anxiety

Elevations on scale 7 of the MMPI are highly correlated with anxiety (Graham, 1987). Six of seven studies report that bulimics have significantly elevated scores on scale 7; the mean of the standardized mean differences is 1.48 (Dykens & Gerrard, 1986; Mizes, 1988;

Norman & Herzog, 1983; Pyle et al., 1981; Scott & Baroffio, 1986; Williamson et al., 1985).

Two of three studies that utilized the Symptom Checklist - 90 found that bulimics scored significantly higher than controls on the anxiety subscale. An effect size could not be calculated for the lone study in which nonsignificant results were obtained (Johnson et al., 1982). However, the mean of the standardized mean differences for the two studies reporting significant results is 2.88 (Weiss & Ebert, 1983; Williamson et al., 1985).

McCanne (1985), using the State-Trait Anxiety Inventory, found that bulimics scored significantly higher than normals on both state anxiety and trait anxiety (with standardized mean differences of 2.1 and 2.2, respectively). Gross and Rosen (1988), using the Social Anxiety and Distress Scale, found that bulimics scored significantly higher than normals on social anxiety (with $r = .51$).

Researchers in two studies in the ego identity status literature employed the Welsch Anxiety Scale, which is derived from the MMPI. Marcia and Friedman (1970) found that diffused females experienced significantly higher levels of anxiety than subjects in the other statuses. Schenkel and Marcia (1972) found that both diffused and

moratorium subjects experienced significantly higher levels of anxiety than achieved and foreclosed subjects.

With regard to anxiety, it appears that bulimics, diffused females, and perhaps moratorium females, experience more anxiety than other subjects.

Attentional Style

Weisberg et al. (1987), using the Rorschach, found that bulimics are significantly more likely than normals to score as "underincorporators." The authors interpret this to mean that bulimics may fail to attend to important information in the environment when attempting to solve problems or make decisions.

In two ego identity status studies, the Test of Attentional and Interpersonal Style was utilized. In the first, both diffused and foreclosed females were significantly more inclined to narrow their attentional focus (Read, Adams, & Dobson, 1984). In the second, only foreclosed females were significantly more inclined to have a narrow attentional style (Adams, Ryan, Hoffman, Dobson, & Nielsen, 1985).

Therefore, it appears that bulimics are more similar to foreclosed (and perhaps diffused) subjects in their tendency to have an underincorporative attentional style.

Locus of Control

McCanne (1985) concluded that bulimics do not differ from normals on the Rotter Internal-External Locus of Control Scale; the standardized mean difference is .12. However, Dykens and Gerrard (1986) found that bulimics were significantly more external in locus of control than normals (with a standardized mean difference of .78).

Becker et al. (1987), utilizing the Bell Object Relations Inventory, found that bulimics scored significantly higher than normals on the insecure attachment scale. This scale is interpreted to correlate with lack of autonomy in relationships, a characteristic which intuitively seems similar to external locus of control.

In the ego identity status literature, three groups of researchers have addressed issues related to locus of control. Adams and Shea (1979) found that diffused subjects experience significantly less internal control than other subjects and are significantly more likely to believe that chance determines their fate. Schenkel (1975) found that diffused subjects were significantly less field independent on the Embedded Figures Test, but found no difference between the identity statuses on the Human Figure Drawings test of field independence. On the Rotter Internal-External Locus of Control Scale, achieved

subjects scored significantly higher than all other subjects on internal control (Ginsburg & Orlofsky, 1981).

On the locus of control variable, conclusions must remain tentative at this point. However, there appears to be a tendency for bulimics and diffused subjects to experience more external control than other subjects.

Family Relationships

Scale 4 of the MMPI typically correlates with family problems (Graham, 1987). Researchers in six of seven studies found that bulimics scored significantly higher than normals on scale 4; the mean of the standardized mean differences is 1.93 (Dykens & Gerrard, 1986; Mizes, 1988; Norman & Herzog, 1983; Pyle et al., 1981; Scott & Baroffio, 1986; Williamson et al., 1985).

Two studies found that bulimics experience significantly less care from both parents than normals; the mean of the standardized mean differences is .64 (Palmer, Oppenheimer, & Marshall, 1988; Pole, Waller, Stewart, & Parkin-Feigenbaum, 1988).

Using the Family Environment Scale, two studies were conducted in which bulimics were significantly different from normals on two subscales. Bulimics scored lower on family cohesion (mean standardized mean difference, 1.0) and expressiveness (mean standardized mean difference, .72). On four subscales, the results were inconsistent.

One study found significant differences between bulimics and normals, but the other did not. Johnson and Flach (1985) found bulimics to experience significantly less independence from family (mean of standardized mean differences, .79) and more familial conflict than normals (mean of the standardized mean differences, .64). Stern et al. (1989) did not find such differences.

On the Social Adjustment Scale, bulimics were found to experience significantly more maladjustment than normals in the following relationships: parental, marital, family unit, and extended family; the mean of the standardized mean differences is 1.38 (Johnson & Berndt, 1983). Sights and Richards (1984) found that bulimics have significantly higher scores than normals in the following categories: mother expectations, mother controlling, parental demands, parent-daughter stress, and sibling comparison; the mean of the standardized mean differences is 1.64. Lastly, bulimics were found by Weiss and Ebert (1983) to have significantly fewer close relatives than normals (standardized mean difference, .65) and more negative attitudes toward their parents (standardized mean difference, 2.9).

In the ego identity status literature, diffused and foreclosed females were found to experience significantly more control and rejection from both parents in one study

(Adams, 1985) and more control from their mothers in a second study (Adams & Jones, 1983). Adams (1985) found that foreclosed and diffused females reported significantly less companionship and support from their parents. Campbell, Adams, and Dobson (1984) found that diffused females felt significantly less connectedness with and affection for their parents. Foreclosed and diffused females perceive significantly less fairness, more praise (Adams & Jones, 1983), and more withdrawal (Adams, 1985) from their fathers.

With regard to independence, diffused and foreclosed females experience significantly less encouragement of independence from their mothers (Adams & Jones, 1983), and less satisfaction with their general level of independence (Campbell et al., 1984).

In a Family Functioning Task, Bosma and Gerrits (1985) found that diffused subjects demonstrated significantly less autonomy and less time speaking than other subjects in other statuses. The families of both diffused and foreclosed subjects engaged in significantly less family dialogue.

Summarizing the bulimia literature and ego identity status literature, it appears that bulimics are most similar to diffusion, and sometimes foreclosed, subjects

in that they generally experience more problems in family relationships.

Substance Use

In two studies bulimics were found to use alcohol significantly more often than normals (Crowther & Chernyk, 1986; Post & Crowther, 1985); the mean of the standardized mean differences is 1.04. In a third study, bulimics reported significantly more drug use than normals, but did not report more alcohol use (Weiss & Ebert, 1983). Subjects in the first two studies were high school students with a mean age of 16.2 years; subjects in the third study had a mean age of 26. Therefore, it is possible that the age discrepancy between subjects is associated with the difference in alcohol use patterns.

Only one team of researchers has addressed the relationship between ego identity status and substance use. Jones and Hartman (1988) found that diffused subjects were significantly more likely than subjects in other statuses to use a variety of substances, including alcohol.

Based on the few available studies, it seems plausible that bulimics and diffused subjects are similar in terms of increased use of substances -- particularly alcohol.

Summary of Suspected Relationships between Bulimia and Ego Identity Status

On all nine variables, the characteristics of bulimics were found to be similar to the characteristics of diffused subjects on at least one measure and often on more than one measure. For one variable, attentional style, bulimics appeared to be more similar to foreclosed subjects than to diffused subjects. On all other variables bulimics appeared to be most similar to diffused subjects.

Diffused and bulimic subjects appear to be similar on the following variables: undifferentiated sex role orientation, loneliness and social alienation, low self-esteem, self-consciousness, anxiety, external locus of control, family problems, and substance use. Therefore, it was expected that most bulimics would score in the diffused status of ego identity development.

Suspected Relationship between Bulimia, Diffusion Status of Ego Identity Development, and Depression

No reports have been published in which clinical depression per se was studied in relation to the ego identity statuses. However, several of the studies in the ego identity status literature suggest that characteristics which are correlates of depression are often found in diffused subjects: low self-esteem,

self-consciousness, social alienation, external locus of control, and anxiety. Also, many specific studies have been conducted regarding the presence of depressive symptomatology in bulimics. In a review article, Hinz and Williamson (1987, p. 156) concluded that depression is a "common and significant problem for bulimic patients." Therefore, relationships were suspected between bulimia, the diffusion status of ego identity development, and depression.

Speculations Regarding the Relationship between Bulimia, Diffusion Status of Ego Identity Development, and Borderline Personality Symptoms

As noted earlier, Erikson (1968) postulated a relationship between identity diffusion and borderline personality. To date, no reports have been published regarding the possible relationship between borderline personality characteristics and status of ego identity development. According to DSM-III-R, some of the characteristics of borderline personality are unstable interpersonal relationships, impulsiveness, affective instability, and identity disturbance. Because a relationship between bulimia and the diffusion status was inferred from the foregoing literature review, a further review was conducted to explore the relationship between bulimia and borderline personality symptomatology.

Reports of six studies were identified in which the prevalence of borderline personality disorder in bulimia was addressed. Prevalence of borderline personality disorder among bulimics varied from 1.9% to 40%. Two variables that appear to be associated with these prevalence estimates are (a) use of different diagnostic instruments, and (b) patient status of subjects (inpatient, outpatient, or nonpatient).

With regard to inpatient bulimics, Levin and Hyler (1986) found a prevalence rate of 40% using the Personality Disorder Questionnaire. Sansone, Fine, Seuferer, and Bovenzi (1989) used three different instruments: the Diagnostic Interview for Borderline, the Borderline Syndrome Index, and the Millon Clinical Multiaxial Inventory. They found that 31% of bulimics met the cut-off score for borderline personality disorder on at least one instrument, and 23% met the cut-off scores on all three instruments. Because these measures do not directly address DSM-III or DSM-III-R criteria for the disorder, it is probably more accurate to say that they assess degree of borderline symptomatology.

With regard to outpatient bulimics, researchers who utilized the Personality Disorders Questionnaire reported prevalence rates of 14% (Levin & Hyler, 1986) and 13% (Yates, Sieleni, Reich, & Brass, 1989). Cooper et al.

(1988) reported a prevalence rate of 26.6%; however, they failed to report how the diagnoses were made. Pope, Frankenburg, Hudson, Jonas, and Yurgelun-Todd (1987) utilized the Diagnostic Interview for Borderlines (DIB) with a combined sample of outpatients and nonpatients. There are two scoring systems for the DIB. Using the original system they obtained a prevalence rate of 25%. However, using the new system they obtained a prevalence rate of 1.9%. Using a mixed sample of inpatients and outpatients, Wonderlich, Swift, Slotnick, and Goodman (1990) found that 19% of bulimics met criteria for borderline personality disorder. They used the Structured Clinical Interview for DSM-III-R for Personality Disorders (SCID-II).

Regardless of instrument used, all of the researchers cited above reported that a subgroup of bulimics experience a significant degree of borderline personality symptomatology.

Cooper et al. (1988) compared borderline and nonborderline bulimics on degree of psychopathological symptoms using scores on the Symptom Checklist-90 (SCL-90). The borderline bulimics had both significantly greater number and severity of symptoms. Specifically, they scored significantly higher than nonborderline bulimics on the following scales: interpersonal

sensitivity, phobic anxiety, paranoid ideation, and depression.

In summary, on the basis of (a) Erikson's theoretical suggestion regarding the relationship between the diffusion status and borderline personality, and (b) relevant empirical data on bulimia, relationships were suspected between bulimia, the diffusion status of ego identity development, and borderline personality symptomatology.

Suspected Relationship between Bulimia, other Eating Disorders, and the Diffusion Status of Ego Identity Development

In the eating disorders literature, an emerging consensus is that anorexia and bulimia are phases of a unitary disorder, with intense fear of weight gain as the primary, underlying dysfunction (Garner & Fairburn, 1988; Schlundt & Johnson, 1990; Williamson, 1990). The disorder may vary in terms of other symptoms, such as binging, purging, restrictive dieting, and weight gain/loss, depending on the phase of the problem.

Garner and Fairburn (1988) cited the following as evidence for the noteworthy relationship between anorexia and bulimia:

1. Many patients with anorexia nervosa also present with the symptom of bulimia.

2. Patients shift between syndromes at different points in time.

3. The within-syndrome variability is more striking than the between-syndrome differences on most psychometric and clinical comparisons.

4. Many of the so-called "normal weight bulimic" patients have lost as much body weight as typical anorexia nervosa patients but have simply started from higher absolute levels.

5. Treatments for both syndromes have many features in common.

6. Many women with atypical eating disorders seek treatment because they recognize their behavior as maladaptive.

Given that females with the diagnoses listed above appear to be similar in terms of most psychological characteristics, it is reasonable to predict that they would also be similar in terms of status of ego identity development. Therefore, a relationship was suspected between females who meet diagnostic criteria for bulimia nervosa, anorexia nervosa, or eating disorder not otherwise specified and the diffusion status of ego identity development.

Summary of Literature Reviewed

On the basis of the literature reviewed, it appears that females with eating disorders (bulimia nervosa, anorexia nervosa, and eating disorder not otherwise specified) and individuals categorized in the diffusion status of ego identity development have a number of characteristics in common. They appear to be similar with regard to the following: undifferentiated sex role orientation, loneliness and social alienation, low self-esteem, self-consciousness, anxiety, external locus of control, family problems, substance use, depression, and borderline personality symptomatology.

METHODOLOGY

Objectives

The objectives of this study were the following: (a) to determine whether differences exist between females with an eating disorder and control females regarding status of ego identity development, and (b) to determine whether relationships exist between status of ego identity development and symptoms of psychopathology, including family discord, social alienation, substance abuse, anxiety, subjective depression, and borderline personality symptomatology.

Of the eight variables on which diffused subjects and females with eating disorders were suspected to be similar on the basis of the literature review, four have been included in this study: family discord, social alienation, substance abuse, and anxiety. Self-esteem and self-consciousness, which were addressed in the literature review, have been subsumed under the more inclusive construct of depression. These five variables can all be readily measured using a single instrument, the Minnesota Multiphasic Personality Inventory (MMPI). Locus of control has not been included because it cannot be readily measured using the same instrument (the MMPI). Sex role orientation was not included because the literature review revealed that eating disorder females typically have not

differed from controls on this variable when measured by the MMPI. Borderline personality symptomatology has been included because of the theoretical relationship to the diffusion status posited by Erikson and because of the previously demonstrated relationship to eating disorders.

The 16- to 47-year-old age group was chosen because it was expected that identity issues are most salient during this age range. Many studies have focused on unique subgroups of females with eating problems. Because little is known about identity development in females with eating disorders, the objectives of the proposed research are relevant for all females with eating disorders in the specified age group. Therefore, the sample that was selected includes females from a number of different academic, geographic, and treatment settings. Thus, the present study results should be generalizable to a broad population.

Population and Sample

The target population for this research was 16- to 47- year-old females who met the DSM-III-R criteria for an eating disorder (American Psychiatric Association, 1987). Subjects qualified for inclusion in the eating disorder sample if they met DSM-III-R criteria for: (a) bulimia nervosa, (b) anorexia nervosa, or (c) eating disorder not otherwise specified (see Appendix A). Minimum criteria

for inclusion were as follows: (a) acknowledgment of excessive concern about weight and/or body image, and (b) regular use of at least one strict or excessive form of prevention of weight gain (stipulated below). These two primary symptoms persist over the course of both anorexia nervosa and bulimia nervosa. When these two were the only symptoms presented, the subject qualified for a DSM-III-R diagnosis of eating disorder not otherwise specified (NOS).

Excessive concern about weight and body image was measured using a subjective, self-rating score. Subjects were asked to rate their level of worry about weight and body image on a scale of 1 to 10. A rating of 7 or above was considered excessive. Strict or excessive forms of prevention of weight gain were defined as follows: (a) restrictive eating or strict dieting, such as skipping meals at least 4 days per week, or fasting for at least 24 hours at least once per week, or actively following a specific food restriction ("diet") plan; (b) excessive exercise: more than 1 hour per day at least 4 days per week; (c) self-induced vomiting at least once per week; or (d) use of laxatives, diet pills, or dieuretics at least once per week.

In order to obtain a representative sample of females with one of the three aforementioned diagnoses, subjects

were selected from the following groups: (a) junior and senior high school students, (b) college students, and (c) clients involved in outpatient or inpatient programs for treatment of an eating disorder for 6 months or less.

Control subjects did not meet the above-stated criteria for an eating disorder. They were matched with eating disorder subjects on age group and geographical location.

Procedures

Subjects were recruited for participation in the study in two ways: (a) screening among high school and college students, and (b) referral from eating disorder treatment programs.

Screening of high school and college students. A paper and pencil screening procedure was used to identify probable eating disorder subjects. Diagnoses were later established on the basis of a structured clinical interview. Permission to conduct screening procedures was sought from appropriate school personnel -- administrators and teachers. A written statement of the research objectives was provided (see Appendix B).

All subjects who participated in the screening were informed that the purpose of the screening was to select a subgroup of students who would later be asked to participate in a study examining health and developmental

concerns of late adolescents and young adults. They were informed that confidentiality of all test results would be strictly maintained. They were also told that they would be informed in a confidential manner if a severe health problem was detected. Within the context of this study, a severe health risk was considered to be one of the following: (a) a severe case of bulimia, which involves daily binging and purging or daily laxative abuse, or (b) anorexia with body weight below the normal range. When such cases became obvious, the subject was informed of the risks involved as well as of available treatment options.

For the screening, subjects completed a questionnaire, the Bulimia Test. In addition, they were asked to record some demographic information on the face sheet of the screening instrument (see Appendix C). They were instructed not to put their name on either sheet. Both sheets were numerically coded. Each student also read and signed a brief consent for screening form, which reiterated the limits of confidentiality (see Appendix D). This form had the same numerical code as the answer sheet. Before completing the screening questionnaire, subjects were asked to sign this form, giving their own consent for screening. In this way, a data file matching

subject name and code number was maintained separate from the number-coded test protocols and scores.

Students under the age of 18 were given permission slips for the signature of a consenting parent or guardian (see Appendix E). The signed permission slip was required of all participants under the age of 18.

Self-report screening packets were mailed to 637 female junior and senior students at two high schools. The screening packet was administered to 428 college females during a regularly scheduled class.

The Bulimia Test (BULIT) was used as the initial screening instrument to identify possible eating disorder subjects for this study. Subjects who scored 102 or greater on the BULIT, and those who scored between 88 and 102 and admitted to occasional vomiting composed the initial group of probable eating disorder subjects.

Referred subjects. The remainder of the eating disorder group was selected from females who were referred from one of several different treatment programs. Only eating disorder clients who had participated in their current treatment program for 6 months or less were included in the study. Again, the structured interview was utilized to verify an eating disorder diagnosis. The referral process yielded ten in-patient and seven out-patient females with an eating disorder.

Control subjects. The control group was selected from high school and college screening participants who scored within one standard deviation of the mean on the BULIT. In addition, these subjects did not meet criteria for an eating disorder on the structured interview. They were matched with eating disorder subjects on age group and geographic location.

Verification of diagnosis and full study procedures. Subjects in the initial groups (selected on the basis of screening or referral) were invited to participate in the full study procedures. They were informed that their participation would involve an audiotaped interview and two paper and pencil questionnaires which would take a total of about 2 hours to complete. Those subjects who were under 18 years of age were sent a letter (see Appendix F) and a parent/guardian permission slip (see Appendix G), which was signed and delivered to the testing site.

Upon arrival at the testing site, each subject was asked to read a letter describing the study procedures (see Appendix F) and sign an informed consent form (see Appendix G) and an agreement for permission to audiotape the interview session (see Appendix H). Each testing session included: (a) paper-and-pencil administration of

the Extended Objective Measure of Ego Identity Status -- 2 and the Minnesota Multiphasic Personality Inventory, and (b) specified sections of the Structured Clinical Interview for DSM-III-R: the eating disorders section of the SCID-I and the borderline personality section of the SCID-II. Each subject received three movie rental coupons as gratuity for the time they spent.

The interviewer determined a score on both interviews and made a differential diagnosis with regard to the presence or absence of an eating disorder. A reviewer, who was blind to the interviewer's scores and diagnoses, listened to all of the audiotaped interviews and provided a score for both interviews and a diagnosis regarding the presence of an eating disorder. If there was disagreement between the interviewer and the first reviewer, then a second blind reviewer was asked to review and score the tapes. The average of the three scores was then used.

The final study groups were composed of those subjects who met the criteria for inclusion based on the interview scores.

Instrumentation

The Bulimia Test (BULIT) was used as the screening instrument for this study (see Appendix I). It has been found to be a reliable and valid predictor of bulimia in

nonclinical populations (Smith & Thelen, 1984). Smith and Thelen (1984) indicated that the cut-off score of 102 virtually eliminates false-positive cases; however, this high cut-off score often yields some false-negative cases. Smith and Thelen (1984) suggested that false negatives can be minimized by using a cut-off score of 88 or by including subjects who admit to occasional vomiting. However, these latter criteria yield an unacceptable number of false-positive cases. In order to achieve a workable compromise between false-positive and false-negative cases, both of the above criteria were utilized in this study. Subjects were automatically included in the group of probable eating disorders if they scored 102 or above; subjects were also included if they scored 88 or above and admitted to occasional vomiting.

To verify the presence or absence of significant eating problems, a modified version of the eating disorders section of the Structured Clinical Interview for DSM-III-R (SCID-I) (Spitzer, Williams, Gibbon, & First, 1989a) was used (see Appendix J). The modified version of the interview was pilot-tested three times using high school and college females (Stein, personal communication, March 2, 1989). It was repeatedly revised to address questions raised by subjects and research interviewers regarding the clarity and validity of the items in

relation to DSM-III-R criteria. It includes questions concerning both anorexia nervosa and bulimia nervosa.

The Extended Objective Measure of Ego Identity Status -- 2 (EOMEIS-2) (Bennion & Adams, 1986) was used to assess ego identity development for each subject (see Appendix K). Examining internal consistency, Bennion and Adams (1986) reported that Crombach alphas for the EOMEIS-2 subscales range between .58 and .80. They also reported acceptable discriminant, convergent, concurrent, and predictive validities. This instrument assesses identity development in two major domains: ideological identity and interpersonal identity. Ideological identity reflects level of exploration and commitment in the areas of occupational, religious, political, and life-style choices. Interpersonal identity reflects level of exploration and commitment in the areas of friendship, dating, sex roles, and recreational choices.

For <u>each</u> domain of identity development (ideological and interpersonal), a subscale score for <u>each</u> status (diffusion, foreclosed, moratorium, and achieved) is derived by summing responses on relevant items. Then, by comparing raw subscale scores against set cut-off points and using a series of decision rules, each subject is classified into a single identity status. For comparison purposes, the cut-off points are set at one standard

deviation above the mean for each subscale. Validation studies (Adams et al., 1979) have suggested that classification is most appropriately completed by collapsing downward into less sophisticated statuses. Therefore, for a given domain, a subject is classified as diffused when the diffusion subscale score is high (above the cut-off score) regardless of the other subscale scores. A subject is classified as foreclosed when the foreclosure score is high and the diffusion score is low, regardless of the other two subscale scores. Moratorium classification is given when a subject scores high on moratorium and low on diffusion and foreclosure, regardless of the score on achievement. Achievement classification is given when a subject scores high on achievement and low on all other statuses.

There are some problems associated with categorization of subjects based on artificially imposed cut-off scores (Pedhazur, 1982). Many subjects who score near the cutoff on either side of the distribution are obviously quite similar, often separated from one another by only a point or two. Nonetheless, a categorization scheme requires that subjects scoring on just either side of the cut-off score be grouped with extreme scorers at respective ends of the distribution. This erroneously suggests that they are more similar to such extreme

scorers than to one another. Therefore, the analyses in the present study utilize both the categorization scores as well as the continuous subscale scores.

The MMPI is a commonly used instrument for assessing psychopathology. In this study, three of the Harris and Lingoes subscales, one supplemental scale, and one standard clinical scale were used to measure level of pathology on the five variables listed below. Scale names are indicated in parentheses: (a) subjective depression (D1), (b) family discord (PD1), (c) social alienation (SC1A), (d) substance abuse (MacAndrew Alcoholism Scale -- MAC), and (e) anxiety (PT).

Harris and Lingoes developed MMPI subscales for six of the ten clinical scales. The subscales were constructed by grouping items that the authors intuitively judged to be similar in content. Graham (1987) summarized the reliability studies on the Harris and Lingoes subscales; he concluded that most have a high degree of internal consistency. As reported by Graham (1987), Kuder-Richardson values for the subscales utilized in the present study are as follows: (a) D1 (.82), (b) PD1 (.67), and (c) SC1A (.71). Factor analytic studies reveal factors that are similar to the Harris and Lingoes subscales (Graham, 1987) within each of the clinical scales.

As noted in the literature review, high scores on scale 4 (PD) of the MMPI are often correlated with a number of factors, including significant family discord and authority conflicts. Because this scale is multidimensional in nature, one Harris and Lingoes subscale, PD1, was constructed from those scale 4 items reflecting family conflict. In a similar vein, scale 2 (D) and scale 8 (SC) are also multidimensional scales. Subscale D1 was constructed from items that reflect a subjective experience of depressed mood. SC1A was constructed of those items that specifically involve feelings of social alienation. Use of these subscales facilitates more precise interpretation of MMPI data.

One of the MMPI supplemental scales was utilized in this study: the MacAndrew Alcoholism Scale (MAC). Graham (1987) concluded that the MAC is effective in identifying adolescents and adults who have significant problems with alcohol and/or drug abuse; the average of test-retest reliability coefficients is .79.

Clinical scale number 7 (PT) was utilized to assess current level of anxiety. Graham (1987) reported that this is among the most internally consistent scales of the MMPI. Studies regarding behavioral correlates of high scores on PT indicate that anxiety disorders are the most

common diagnoses for individuals who score high on this scale.

Due to logistical constraints, five of the subjects in this study completed the MMPI-2 (rather than the original MMPI). Except for the MacAndrew Alcoholism Scale-R (MAC-R), the MMPI-2 scales and subscales used in this study are nearly the same as those on the MMPI; they contain only minor editorial changes. On the MAC-R, four of the original 49 MAC items have been replaced by its authors with items of less objectionable content. The four new items were selected because they differentiated alcoholics from nonalcoholics (Graham, 1990). Because T-score conversions are calculated differently for the MMPI and the MMPI-2, raw scores were utilized in all analyses for this study.

Borderline personality symptomatology was assessed using the borderline personality section of the Structured Clinical Interview for DSM-III-R Personality Disorders (SCID-II) (Spitzer, Williams, Gibbon, & First, 1989b) (see Appendix L). Because the SCID-II is a newly developed instrument, reliability and validity data are limited. However, because the questions adhere closely to the DSM-III-R criteria, they appear to possess face validity. In their discussion of the reliability of the SCID-II, the authors indicate that test-retest and interrater

reliabilities are similar to those reported for other personality assessment instruments. When compared with the "longitudinal expert evaluating all data" (LEAD) method of diagnosing personality disorders, the SCID-II correctly diagnosed 17 subjects with three false negatives and no false positives (Skodol, Rosnick, Kellman, Oldham, & Hyler, 1988).

Hypotheses

Hypothesis #1, the primary research hypothesis, addresses the suspected relationship between eating disorders and diffused identity development. A higher proportion of eating disorder than control females was expected to be categorized in the diffusion status for both domains of ego identity development (ideological and interpersonal). In addition, eating disorder subjects were expected to score higher on the diffusion subscales than control subjects.

Hypothesis #2 was established to test the expected relationship between the diffusion status of ego identity development and the aforementioned variables of psychopathology. While the MMPI and the SCID-II have not been used in previous identity status research, previous research does suggest that females with high diffusion scores will have higher levels of psychopathology than nondiffused (achieved, moratorium, foreclosed) females.

RESULTS

Subject Characteristics

Subjects for this study were 66 females ages 16 - 47. Thirty-three subjects met the selection criteria for an eating disorder, and 33 females served as control subjects. The Table 1 presents the number of subjects in each age group. The mean age of the eating disorder group was 23.7 years (standard deviation 7.6 years). The mean age of the control group was 23.6 years (standard deviation 7.6 years). Twenty-six subjects were recruited in northern Utah and 40 in southern Louisiana.

Table 1

Number of Subjects per Age Group

Age Group	Eating Disorder	Control
16 - 20	16	16
21 - 25	9	9
26 - 35	4	4
36 - 47	4	4

The eating disorder group included ten inpatients, seven outpatients, and 16 nonpatients. Seventeen eating disorder subjects were identified via the screening procedures; the remaining 16 were referred from treatment programs. Diagnoses included 12 bulimics, 1 anorectic, 1 bulimic-anorectic, and 19 eating disorder not otherwise specified. Diagnoses were established by the principal investigator based on interview data.

Statistical Results

For the conceptual reasons noted previously, relationships among variables were analyzed using both categorical and continuous scores from the EOMEIS-2. In line with the research hypotheses, analyses assessed the following: (a) differences between the eating disorder and control groups regarding proportions of subjects classified in the various statuses of ego identity development (chi-square), (b) the overall combination of identity status subscale scores in relationship to group membership (MANOVA), (c) univariate relationships between groups on each of the subscales (*t* tests), (d) optimal linear combination of subscale scores to predict group membership (step-wise, multiple regression), and (e) relationships between identity status subscale scores and measures of psychopathology (correlations).

The first test of hypothesis #1 addressed whether differences exist between eating disorder and control subjects in terms of the proportions of each sample categorized in the statuses of identity development. Identity development was categorized on two major dimensions: ideological identity and interpersonal identity. On the basis of chi-square (X^2) analyses, independence was found for clinical status (eating disorder versus control) and the two dimensions of identity development: For ideological identity, X^2 (3, N = 66) = 6.363, p = .0995. For interpersonal identity, X^2 (3, N = 66) = 3.901, p = .2723.

Tables 2 and 3 indicate the number of eating disorder (ED) and control subjects scoring in each status for both domains of ego identity.

With respect to ideological identity, there was a trend approaching significance with more eating disorder than control subjects scoring in the diffusion, foreclosure, and moratorium statuses and fewer eating disorder subjects in the achievement status. This trend confirms the general expectation that more eating disorder subjects would score in the lower statuses (i.e., diffusion, foreclosure, and moratorium) and more control subjects would score in the highest status (i.e., achievement). In both the ideological and interpersonal

Table 2

Observed Frequency Table -- Ideological Identity

Group	Diffused	Foreclosed	Moratorium	Achieved	Total
Eating Disorder	7(21%)	6(18%)	18(55%)	2(6%)	33
Control	3(9%)	5(15%)	16(49%)	9(27%)	33
Total	10(15%)	11(17%)	34(51%)	11(17%)	66

Table 3

Observed Frequency Table -- Interpersonal Identity

Group	Diffused	Foreclosed	Moratorium	Achieved	Total
Eating Disorder	7(21%)	5(15%)	16(49%)	5(15%)	33
Control	5(15%)	2(6%)	15(46%)	11(33%)	33
Total	12(18%)	7(11%)	31(47%)	16(24%)	66

domains, more subjects (eating disorder and control) scored in the moratorium status than any of the other statuses. Also, in both domains, there was a higher proportion of the control group than the eating disorder group scoring in the achievement status. However, these differences were not statistically significant.

Groups were also compared on the identity status subscale scores. Separate MANOVAs were conducted for each domain of identity development (ideological and interpersonal). These were followed by *t* tests. Tests for homogeneity of variance revealed equivalent variances for the eating disorder and control groups on all measures. Therefore, pooled variance estimates were used in calculating *t* values. Effect sizes (ES) of group differences were also calculated.

With respect to the ideological identity domain and clinical status, the overall MANOVA was statistically significant, F (4, 61) = 2.92, p = .03. Therefore, univariate analyses were conducted. Statistically significant differences between the eating disorder and control groups were found on the following subscales: ideological diffusion, moratorium, and achievement (see Table 4). No statistically significant difference was found between groups on the ideological foreclosure subscale.

With respect to interpersonal identity, the overall MANOVA was not statistically significant, F (4, 64) = 1.95; p = .11. However, the possibility of between-group differences on individual subscales was not rejected, and univariate analyses were pursued. Univariate analyses revealed statistically significant differences between the eating disorder and control groups on the following subscales: interpersonal diffusion and achievement. No statistically significant differences were found between groups on the interpersonal foreclosure and moratorium subscales (see Table 5).

As a preliminary step in examining the optimal linear combination of subscale scores to predict group membership, the possibility of multicolinearity of subscale scores was examined. Specifically, significant correlations between the diffusion and moratorium subscale scores were found in both domains of identity development: ideological domain (r = .70, $p \leq$ -.001) and interpersonal domain (r = .36, $p \leq$ -.01). Therefore, the diffusion and moratorium subscales were summed to attain a combined score for each domain of identity development. T tests were then conducted to assess group differences on the new, combined score. Statistically significant differences between the eating disorder and control groups were found on both domains (see Tables 4 and 5).

Table 4

Group Differences on Ideological Subscales

Subscale	x	sd	t	p	ES
DIFFUSION					
ED	23.94	5.36			
Control	20.30	5.55	2.70	.01	.66
MORATORIUM					
ED	27.24	5.96			
Control	23.06	5.65	2.93	.005	.74
ACHIEVEMENT					
ED	31.58	5.21			
Control	34.94	5.34	-2.59	.01	-.63
FORECLOSED					
ED	19.76	7.34			
Control	18.97	6.08	.47	.64	.13
DIFFUSION/MORATORIUM					
ED	51.18	10.09			
Control	43.36	10.48	3.09	.003	.75

Table 5

Group Differences on Interpersonal Subscales

Subscale	x	sd	t	p	ES
DIFFUSION					
ED	21.91	5.28			
Control	18.64	6.21	2.31	.02	.53
MORATORIUM					
ED	27.09	5.34			
Control	24.73	6.04	1.69	.09	.39
ACHIEVEMENT					
ED	31.85	5.56			
Control	34.76	5.77	-2.08	.04	-.50
FORECLOSED					
ED	18.09	7.21			
CONTROL	17.79	5.92	.19	.85	.05
DIFFUSION/MORATORIUM					
ED	49.00	8.24			
Control	43.36	10.31	2.45	.02	.55

Tables 4 and 5 summarize the between-group (eating disorder/control) differences on all of the subscales and

on the diffusion/moratorium combined subscales for ideological and interpersonal identity.

The optimal combination of identity status subscale scores for predicting group membership was evaluated using step-wise multiple regression analyses. Separate regression analyses were conducted for the ideological and interpersonal domains. For purposes of analysis, the eating disorder group was coded "1" while the control group was coded "2." For ideological identity, the moratorium, diffusion, and achievement scores had similar, statistically significant ($p \leq .01$) correlations with group membership: for moratorium, $r = -.34$; for diffusion, $r = -.32$; and for achievement, $r = .31$. Within the ideological identity domain, the combined diffusion/moratorium score (discussed previously) yielded the largest correlation with group membership, $r = -.36$, $p \leq .003$. The step-wise regression analysis suggested that no multiple correlation exceeded the size of any of the zero-order correlations between group status and the ideological subscales. The diffusion, moratorium, and achievement subscale scores are roughly equivalent in terms of their zero-order correlation with group membership.

With regard to the interpersonal identity domain, similar results were obtained. The diffusion, moratorium,

and achievement subscale scores were significantly correlated with clinical group (all $p \leq .05$): for diffusion, $r = -.28$; for moratorium, $r = -.21$; and for achievement, $r = .25$. As with ideological identity, the interpersonal combined diffusion/moratorium score yielded the largest correlation with group membership, $r = -.29$, $p \leq .02$. Again, the step-wise regression analysis revealed no multiple correlations that were larger than the aforementioned zero-order correlations. In particular, the diffusion and achievement subscale scores were equally predictive of group membership, and the moratorium subscale score was slightly less predictive.

Hypothesis #2 suggested a relationship between the diffusion status of identity development and high levels of psychopathology. Tables 6 and 7 indicate the correlations between the identity status subscales and the measures of psychopathology.

With respect to the ideological identity domain, there are significant positive correlations between diffusion scores and subjective depression (D1) and anxiety (PT). There are also significant positive correlations between moratorium scores and subjective depression (D1), anxiety (PT), social alienation (SC1A), family discord (PD1), and borderline personality symptomatology (BPD). Ideological moratorium appears to

Table 6

Correlations between Ideological Subscales and Measures of Psychopathology

	Subjective Depression	Family Discord	Anxiety	Social Alienation	Substance Abuse	Borderline Personality
Diffusion	.29*	.26	.29*	.19	-.21	.27
Moratorium	.42**	.35*	.42**	.32*	-.17	.41**
Diff + Mor	.39**	.33*	.39**	.28	-.21	.37*
Foreclosed	-.14	-.15	.02	-.08	.17	-.12
Achieved	-.18	-.14	-.16	-.22	.14	-.35*

one-tailed significance: * $p \leq .01$ ** $p \leq .001$

Table 7

Correlations between Interpersonal Subscales and Measures of Psychopathology

	Subjective Depression	Family Discord	Anxiety	Social Alienation	Substance Abuse	Borderline Personality
Diffusion	.21	.21	.22	.21	-.01	.16
Moratorium	.06	.26	.16	.15	.15	.16
Diff + Mor	.16	.28	.23	.22	.08	.19
Foreclosed	-.12	-.17	-.02	-.12	.05	-.14
Achieved	-.23	-.25	-.23	-.22	.15	-.29*

one-tailed significance: * $p \leq .01$

be more strongly correlated with symptoms of psychopathology than is ideological diffusion. However, this pattern of correlations indicates some similarities between the diffusion and moratorium subscales and lends support to the suggestion that these two subscales share some variance. As expected, there was a negative correlation between ideological achievement and borderline personality (BPD) scores. None of the measures of psychopathology is significantly associated with the ideological foreclosure subscale.

With respect to interpersonal identity, the only significant finding was a negative correlation between the achievement subscale and borderline personality symptomatology (BPD). Contrary to expectations, there were no significant correlations between the diffusion subscale and any of the measures of psychopathology.

DISCUSSION

Eating Disorders and Ego Identity Development

The separate literatures on eating disorders and ego identity development suggested that differences might be expected between eating disorder and control females regarding status of identity development. Specifically, it was expected that, compared to controls, eating disorder subjects would have higher diffusion subscale scores, and a significantly higher proportion of eating disorder subjects would be categorized in the diffusion status.

The diffusion status is regarded as the lowest level of identity development because it entails neither systematic identity exploration nor commitment. Josselson (1987) described diffused women as "adrift," without purpose or coherence. They are likely to make decisions and choices based on the expediency of the moment or on the preferences of others who are available for advice at a given time. This stance towards personal values and preferences is considered to be the antithesis of identity achievement, which is the highest level of identity development. Achievement involves both systematic exploration and commitment to personal choices in such arenas as occupation, lifestyle, religious and political

beliefs, sex role, recreation choices, and friendship preferences.

The results of the present study largely confirm the primary research hypothesis. When analyses were conducted using the identity status subscale scores as continuous variables, significant between-group differences in the hypothesized directions emerged. The eating disorder group scored significantly higher than controls on the ideological diffusion and moratorium subscales, and significantly lower on the achievement subscale. For interpersonal identity, the eating disorder group scored significantly higher on the diffusion subscale and lower on the achievement subscale.

When identity status subscale scores were collapsed into single-status categories, trends in the expected directions emerged. For both ideological and interpersonal identity, more eating disorder subjects scored in the lower statuses: diffusion, foreclosure, and moratorium. More control subjects scored in the achievement status. However, these differences were not statistically significant.

It appears that females with eating disorders are more likely than controls to experience and report identity diffusion. On the whole, they are less likely to have engaged in systematic exploration or made personal

commitments in either the ideological domain (occupational and lifestyle choices, religious and political beliefs) or the interpersonal domain (sex role, recreation, dating, and friendship preferences). In addition, the current results suggest that women with eating disorders are less likely than controls to experience and report high levels of identity achievement.

Within the ideological domain, one unexpected finding was higher moratorium scores among women with eating disorders. This suggests that compared with controls, eating disorder women were more actively engaged in the process of exploring and testing personal beliefs and preferences in the areas of occupation, lifestyle, religion, and politics. While causal relationships cannot necessarily be inferred, it appears that both ideological diffusion and moratorium frequently characterize the identity development of females with eating disorders.

Overlap of the Diffusion and Moratorium Statuses

For both the ideological and interpersonal identity domains, the largest between-group (eating disorder/control) differences occurred when the diffusion and moratorium subscales were collapsed into a single subscale. The eating disorder group scored higher on this collapsed subscale in both instances. Analyses also

revealed significant correlations between the diffusion and moratorium subscales in both domains. Finally, the diffusion and moratorium subscales were similarly correlated with clinical group, and the diffusion/moratorium subscales were most highly correlated with clinical group in both domains.

In the reference manual for the EOMEIS-2, Adams, Bennion, and Huh (1989) summarized the results of five factor analytic studies that were conducted on an earlier version of this measure. They concluded that, "theoretically consistent results were reported, except that the diffusion and the moratorium scales were found to share some variance" (p. 47). They speculated about possible explanations for the shared variance: (a) few clear cases of the diffused identity exist among college populations, (b) these two statuses may be more similar than originally conceptualized, or (c) this measure may be a poor discriminator of these two identity statuses.

Given these potential explanations, it is reasonable first to ask what percentage of the population typically scores in the diffusion status. Reports of three separate studies provide sufficient data to determine the percentage of college students scoring in the diffusion status. The range is from 13.3% to 33.9% with a mean of 22.7% (Campbell et al., 1984; Frank, Pirsch, & Wright,

1990; Neimeyer & Rareshide, 1991). Also, Josselson (1987), utilizing Marcia's original structured interview, found a number of diffused cases among college women, and she reported that at least half of these women remained in the diffusion status in a 12-year follow-up study. In the present study, most of the subjects were college students or graduates, and there was a small subgroup of subjects who scored in the diffusion status for both domains of identity. Thus, diffused persons, as measured by various versions of this instrument, are reasonably numerous.

However, classification in the diffusion status does not necessarily imply that a person is a "pure" diffusion type (Adams et al., 1989, p. 24). Understanding the decision rules for classifying subjects into the diffusion and moratorium statuses may help explain the apparent overlap among subjects in these groups. High scores on the diffusion subscales result in diffusion categorization, even if the other subscale scores are also high (as previously described). A person is considered to be a "pure" diffusion type only when the diffusion subscale score is high and all other subscale scores are low. Conversely, in order to be classified as moratorium, subjects must score below the cutoff on diffusion; however, it is quite possible that subjects classified as

moratorium also acknowledged some level of diffusion responses. It appears that many subjects (regardless of how they are categorized) have significant characteristics of both diffusion and moratorium, and therefore, do not represent "pure types." The correlation between the two subscales is likely higher in samples that have few pure-type subjects. The current sample may under-represent the pure diffusion type because it was composed largely of college students and graduates.

Another potential explanation for the overlap between the moratorium and diffusion statuses is that they are more similar than originally conceptualized. The two are theoretically similar in that persons in both are "uncommitted" to particular viewpoints or lifestyle choices. However, they are also conceived as being different. The moratorium status is defined by active exploration in attempt to make commitments, while the diffusion status does not, theoretically, involve active exploration. However, it is perhaps the case that no clear distinction exists between those who are actively exploring alternatives and those who are not, among those who have not made identity commitments. If there is no clear distinction, then the most valid classification may come when the two statuses are combined.

Alternately, perhaps the theoretical distinction is important, but current assessment instruments are unable to successfully discriminate case differences that are subtle in nature. The EOMEIS-2 has been used very little with clinical populations and has never before been used with eating disorder subjects. It is possible that the ability of the EOMEIS-2 to discriminate adequately between moratorium and diffusion subjects is further compromised when it is used with clinical populations. In addition, while the instrument has been used with subjects ages 14 through 56, the recommended age range for the instrument is 14 to 30. Little is known about the relationship between age and identity status. The present study did include a small subgroup of older subjects (ages 31 to 47). It is further possible that the discriminative ability of the instrument becomes weaker when older subjects are included in samples.

Josselson also reported some overlap between the diffusion and moratorium statuses. She discovered a subgroup of women who reported (on interview) the experience of identity crisis and exploration. However, she found that their crises were "less goal directed, less focused, and more upsetting" than those of the moratorium women (Josselson, 1987, p. 142). She classified these women in the diffusion status. There is no additional

Ego Identity and Psychopathology

Based on the reviews of literature, a relationship was expected between diffused identity and the six measures of psychopathology. With respect to ideological identity, results confirm a positive relationship between the diffusion subscale and the measures of subjective depression and anxiety. However, the moratorium subscale was found to have even stronger and more numerous associations with psychopathology. The moratorium subscale was significantly associated with subjective depression, family discord, anxiety, social alienation, and borderline personality symptomatology. On the other hand, the achievement subscale was negatively associated with borderline personality symptomatology. With respect to interpersonal identity, the only significant finding was a negative relationship between the achievement subscale and borderline personality symptomatology.

In this mixed sample of eating disorder and control females, it appears that high scorers on the ideological moratorium subscale are most likely to experience symptoms of psychopathology. Interpersonal moratorium was not similarly associated with psychopathology. The interpersonal identity domain is a recent addition to the EOMEIS and was added to reflect identity issues most salient for females. The present results suggest that

females negotiate the exploration of interpersonal identity (moratorium) with minimal distress. In addition, interpersonal diffusion was not associated with psychological distress.

However, prior to the development of the interpersonal dimension, Marcia (1980) concluded that female moratorium subjects do not evidence the same positive, adaptive personality characteristics that are seen in their male counterparts. The present results confirm the tendency of females to experience the exploration of ideological commitments as particularly difficult and distressing. In addition to depression and anxiety, these women appear to experience both conflict in and alienation from important interpersonal relationships. Perhaps a certain degree of social detachment is requisite for females to explore commitments in the areas of occupation, lifestyle, political, and religious ideology.

High scores on ideological diffusion were associated with depression and anxiety as expected. However, high diffusion scores were not significantly associated with borderline personality, social alienation, or family discord. Unexpectedly, high moratorium scores were associated with these. The MMPI had not been used in previous identity status research. Use of this instrument may, to some degree, explain the unexpectedly high

correlations between moratorium scores and measures of psychopathology. It is also possible that highly diffused females are able to avoid some interpersonal conflict and alienation by deferring important decisions and judgments to significant others around them at any given time.

Contrary to expectations, the measure of substance abuse was not associated with the diffusion subscales, nor was it associated with the moratorium subscales.

The measure of borderline personality symptomatology was negatively associated with both the interpersonal and ideological achievement subscales. These findings are congruent with expectations. Borderline personality symptoms reflect serious personality disturbances that are inconsistent with a high level of identity development. However, borderline personality symptomatology was not significantly associated with the diffusion status as predicted. Erikson (1968) posited a continuum of identity diffusion from mild to "malignant." Perhaps borderline symptoms are most likely to be associated with the most extreme, or "pure," diffusion types. Such cases may be underrepresented in the current sample.

Limitations of the Current Study

The primary objective of this study was to examine identity development in females with eating disorders. Because identity development had never been studied in

discussion in the literature regarding the optimal classification of such a subgroup.

In the present study, the high correlations between the diffusion and moratorium subscales may, in part, reflect the responses of a subgroup similar to the one reported by Josselson. These subjects may describe themselves as being engaged in the process of identity exploration. However, realistically, they are unable to engage in systematic exploration and tend to make important life choices based on whatever is most expedient at a given time. It is possible that women with such characteristics are categorized in the moratorium status on the EOMEIS-2, though their behavior is, agruably, more diffused.

In the present study, more subjects -- both eating disorder and control -- scored in the moratorium status than any of the other three statuses in both the interpersonal and ideological domains. If the EOMEIS-2 fails to adequately discriminate between the moratorium and diffusion statuses, it is possible that some of the subjects in this study who scored in the moratorium status might have actually belonged in the diffusion status. If so, a more sensitive classification measure might reveal more substantive identity status differences between eating disorder and control subjects.

this population, criteria were established so that a broad spectrum of females with eating problems was included. While all of the females in the eating disorder group met minimum criteria for a formal eating disorder, they varied on a number of dimensions, including: age (ranged 16 to 47), diagnosis (bulimia nervosa, anorexia nervosa, eating disorder not otherwise specified), patient status (inpatient, outpatient, nonpatient), and geographical location (Utah, Louisiana). It is conceivable that differences exist between eating disorder subgroups on the variables under study which could have influenced the current results in unknown ways. In addition, the sample used in the present study was small. Therefore, findings should be considered tentative and require replication -- preferably with a larger sample.

Directions for Future Research

The results of the present study suggest significant redundancy between the diffusion and moratorium statuses. At present, it is difficult to ascertain whether these two statuses are actually measuring a single underlying construct or whether the instrument is unable to make subtle distinctions between two fundamentally different identity statuses. Moreover, it was suggested that subgroups may exist made up of subjects who possess varying levels of characteristics of both statuses. The

theoretical question of how to classify such subjects requires attention as does the practical question of how to measure identity statuses objectively.

As noted in the literature review, the concept of identity development has often been assumed to have relevance and utility in the realm of clinical work. Therefore, the EOMEIS-2 has potential utility for clinicians and clinical researchers. Attention to the aforementioned concerns might enhance the attractiveness of the instrument to clinicians and researchers alike. This is especially true given the previously noted relationships between both the diffusion and moratorium subscales and symptoms of psychopathology.

Further research on identity development in females with eating disorders might focus on specific subgroups within the broad eating disorder population. Exploration might focus on comparison of patterns of identity development between the following groups: younger and older age groups; anorexics and bulimics; inpatients and outpatients; and college-educated and high school-educated subjects.

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APPENDICES

Appendix A

DSM-III-R Criteria for Eating Disorders

Anorexia Nervosa

A. Refusal to maintain body weight over a minimal normal weight for age and height, e.g., weight loss leading to maintenance of body weight 15% below that expected; or failure to make expected weight gain during period of growth, leading to body weight 15% below that expected.

B. Intense fear of gaining weight or becoming fat, even though underweight.

C. Disturbance in the way in which one's body weight, size, or shape is experienced. (e.g., The person claims to "feel fat" even when emaciated, believes that one area of the body is "too fat" even when obviously underweight.)

D. In females, absence of at least three consecutive menstrual cycles when otherwise expected to occur (primary or secondary amenorrhea). (A woman is considered to have amenorrhea if her periods occur only following hormone, e.g., estrogen administration.)

Bulimia Nervosa

A. Recurrent episodes of binge eating (rapid consumption of a large amount of food in a discrete period of time).

B. A feeling of lack of control over eating behavior during the eating binges.

Appendix B

Statement of Objectives and Procedures for Screening

The objectives of this study are to compare females with an eating disorder with normal females on the following variables: (a) status of identity development, (b) symptoms of psychopathology, including depression, family discord, social alienation, substance abuse, anxiety, and symptoms of borderline personality.

A screening questionnaire which has been shown to be a reliable predictor of bulimia in high school and college-age populations will be used to identify potential eating disorder subjects. It takes approximately 15 minutes to complete this questionnaire. The normal comparison group will be composed of a randomly selected group of those students who do not meet the criteria for an eating disorder on the screening questionnaire.

Parental permission to conduct the screening will be sought for all students under the age of 18. Those students who fail to return a signed permission slip will not be included in the study. Students will also be required to sign a form giving their own consent to participate.

The questionnaires will be numerically coded, and names will be maintained separately from protocols in order to protect the confidentiality of the students.

Confidentiality will be strictly maintained in all cases -- except those in which a serious, health-threatening eating disorder is suspected. In these cases, the student will be notified as well as her parents/guardian if she is under 18.

Based on scores on the screening questionnaire, the eating disorder and control groups will be selected. These students will be contacted and asked to participate in the full study.

The full study involves the following procedures:

1. Administration of paper and pencil inventories:
    a. Extended Objective Measure of Ego Identity Development -- 2
    b. Minnesota Multiphasic Personality Inventory
2. Administration of a Structured Clinical Interview for:
    a. Eating Disorders
    b. Borderline Personality

The time required to complete these procedures is approximately 2 hours. Subjects will be given 3 video rental coupons as gratuity for their participation.

Subjects' participation in all phases of the study is strictly voluntary. All inventories and interview materials will be number (rather than name) coded in order to protect the confidentiality of the subjects. The structured interview will be audiotaped for the purpose of

verification of diagnoses. A separate consent for taping will be obtained from each subject. The tape will be number coded as well. All materials will be destroyed upon completion of the project.

Appendix C

Demographic Face Sheet

Directions: Please fill in the following blanks as they apply to you, but do not put your name on this sheet.

1. What is the name of your school?
   _____

2. What year are you in school? _____fresh _____soph
   _____junior _____senior

3. What is your age?_____

4. What is your sex? _____female _____ male

Appendix D

Student Consent for Screening

For this study, I agree to complete the questionnaire regarding health concerns of late adolescents and young adults. I understand that I may be contacted later and asked to participate in the second part of this study. I also understand that I may withdraw my consent to participate at any time without negative consequences and that my involvement is strictly voluntary. Lastly, I understand that my answers to the questionnaire will be strictly confidential. However, I (and my parent(s)/guardian if I am under the age of 18) will be notified if any severe health problems are suspected. If I have any questions, I may ask the researcher.

_____
Name -- please print

_____ _____
Signature Date

_____
Current address

_____
Phone number

Do you expect to live at this address during the summer of 1990?

_____yes _____no

If no, please give the address where you expect to live during the summer of 1990 in the blank below:

_____

Summer address

_____

Summer phone number

Appendix E

Parent/Guardian Consent for Screening

Dear Parent(s) or Guardian:

We would like to invite your adolescent to participate in a study we are conducting at Utah State University. Our objective is to learn more about the health and developmental issues which are important to late adolescents and young adults. We are interested in health issues such as diet, nutrition, and exercise and how these relate to personality development.

The first part of the study involves a questionnaire which will take about 15 minutes to complete during a class at school. This questionnaire mainly deals with nutrition and diet issues.

A few adolescents representing various age groups will be asked to participate in the second part of the study. In this part of the study a more detailed assessment of nutrition, health, behavior patterns, and personality will be completed. Those adolescents who participate in the second part of the study will be given three movie rental coupons as gratuity for the time they spend (about 2 hours).

Your adolescent's participation is strictly voluntary at all points in the study. Either you or your adolescent may withdraw consent to participate at any time with no

negative consequences. In addition, your adolescent's responses on the questionnaire will be strictly confidential. We will number code all questionnaires and maintain responses as pooled, group information whenever possible. This research is conducted independently of the local school district. No information about the individual students will be available to teachers or administrators, except with the signed request or approval of a parent/guardian. This confidentiality will always be maintained except in those cases in which a severe health problem is suspected. In those cases, only the adolescent and the parent(s)/guardian will be notified.

When the study is completed, the overall results which describe the characteristics of different groups of adolescents will be available to parents, students, and interested school administrators.

Most students find that they enjoy participating in research activities. The procedures may provide a learning experience about the process of scientific research. In addition, they may feel they are contributing to the understanding of adolescent developmental issues. By helping increase understanding, they can help teachers, counselors, and parents to work more effectively with future generations of adolescents.

Feel free to contact one of us if you have any questions regarding your adolescent's participation.

Sincerely yours,

David M. Stein, Ph.D.
Department of Psychology
Utah State University
Logan, UT 84322
750-3401

Dennie Sparks, M.A.
Department of Psychology
Utah State University
Logan, UT 84322
750-3401

I have read the letter describing the initial part of this study concerning health and developmental concerns of adolescents and young adults. I give my consent for

_____

(Adolescent's name -- please print)

to participate.

_____

(Parent/guardian's name -- please print)

_____ _____

(Parent/guardian's signature) Date

Appendix F

Letter Describing Study Procedures

Dear _____:

We would like to thank you for agreeing to participate in the second portion of our study on the health and developmental concerns of late adolescents and young adults.

This second portion of the study will take approximately 2 hours to complete. It will involve: 2 paper and pencil questionnaires (1.5 hours) and an interview (30 minutes). At the completion of the 2 hour session, we will give you three movie rental coupons as a token of our appreciation for your time and assistance. Again, the questions will involve health and developmental issues and concerns of late adolescents and young adults.

The interview portion of this session will be audiotaped, so that the researchers may refer back to it when necessary to verify the information involved in the interview. The tape will be stored on the premise of the Community Clinic and will be destroyed as soon as the study is complete. The tape will be number coded and your name will not be placed on it.

As before, your participation is strictly voluntary; you may withdraw consent at any time with no negative consequences. All data will be strictly confidential.

Your name will not be attached to any of the questionnaires you complete. All data will be pooled because our primary interest is to gather information about your age group, not about individuals. However, we will notify you (and your parent(s)/guardian if you are under age 18) if we suspect that you are subject to a severe, life-threatening health risk.

The overall results of this study will become available upon its completion. Again, thank you for agreeing to participate in this important research. Please sign the attached form indicating that you understand the procedures of the study and agree to participate. Feel free to ask one of us if you have further questions about the study.

(The following paragraph will be included for subjects 18 years old and younger.)

Please allow your parent(s)/guardian to read the above description of the research procedures and sign the attached form giving consent for you to participate in the study. Then bring the form with you to your scheduled appointment. If you fail to return the consent form, you will be unable to participate.

Sincerely,

David M. Stein, Ph.D.
750-3401

Dennie Sparks, M.A.
750-3401

Appendix G

Consent for Participation in Study

I have read the letter which describes the procedures to be used for the second portion of the study on health and developmental concerns of late adolescents and young adults. I consent to participate in the study under the conditions as described.

_____
(Name -- please print)

_____ _____
(Signature) (Date)

(This section will be included for those subjects under the age of 18.)

I have read the letter which describes the procedures to be used for the second portion of the study on health and developmental concerns of late adolescents and young adults. I give permission for

_____
(Adolescent's name -- please print)

to participate in the study as described.

_____
(Name of parent(s)/guardian -- please print)

_____ _____
(Signature of parent(s)/guardian) (Date)

Appendix H

Consent for Audiotaping

I understand that the interview portion of the research project will be audiotaped. The tape will be used only for the purposes of this research project and will be destroyed as soon as the study is complete. A number code, rather than my name, will be placed on the tape.

Within the above stated limits, I give my permission for my interview session to be audiotaped.

_____
(Name -- please print)

_____ _____
Signature Date

For clients under the age of 18, consent of parent or guardian is required for audiotaping.

I consent for the interview with my

daughter_____

to be audiotaped under the conditions described above.

_____
Name of parent/guardian
(please print)

_____ _____
Signature Date

Appendix I

Bulimia Test (BULIT)

Answer each question on the following pages by filling in the appropriate circles on the answer sheet. Please respond to each item as honestly as possible; remember, all of the information you provide will be kept strictly confidential.

1. Do you ever eat uncontrollably to the point of stuffing yourself (i.e., going on eating binges)?
   a. Once a month or less (or never)
   b. 2-3 times a month
   c. Once or twice a week
   d. 3-6 times a week
   e. Once a day or more

2. I am satisfied with my eating patterns.
   a. Agree
   b. Neutral
   c. Disagree a little
   d. Disagree
   e. Disagree Strongly

3. Have you ever kept eating until you thought you'd explode?
   a. Practically every time I eat
   b. Very frequently
   c. Often
   d. Sometimes
   e. Seldom or never

4. Would you presently call yourself a "binge eater"?
   a. Yes, absolutely
   b. Yes
   c. Yes, probably
   d. Yes, possibly
   e. No, probably not

5. I prefer to eat:
   a. At home alone
   b. At home with others
   c. In a public restaurant
   d. At a friend's house
   e. Doesn't matter

13. Sometimes I am afraid to eat anything for fear that I won't be able to stop.
    a. Always
    b. Almost always
    c. Frequently
    d. Sometimes
    e. Seldom or never

14. I don't like myself after I eat too much.
    a. Always
    b. Frequently
    c. Fairly often
    d. Occasionally
    e. Rarely or never

15. How often do you intentionally vomit after eating?
    a. 2 or more times a week
    b. Once a week
    c. 2-3 times a month
    d. Once a month
    e. Seldom or never

16. Which of the following describes your feelings after binge eating?
    a. I don't binge eat
    b. I feel O. K.
    c. I feel mildly upset with myself
    d. I feel quite upset with myself
    e. I hate myself

17. I eat a lot of food when I'm not even hungry.
    a. Very frequently
    b. Frequently
    c. Occasionally
    d. Sometimes
    e. Seldom or never

18. My eating patterns are different from eating patterns of most people.
    a. Always
    b. Almost always
    c. Frequently
    d. Sometimes
    e. Seldom or never

19. I have tried to lose weight by fasting or going on "crash" diets.
    a. Not in the past year
    b. Once in the past year
    c. 2-3 times in the past year
    d. 4-5 times in the past year
    e. More than 5 times in the past year

20. I feel sad or blue after eating more than I'd planned to eat.
    a. Always
    b. Almost always
    c. Frequently
    d. Sometimes
    e. Seldom or never, or not applicable

21. When engaged in an eating binge, I tend to eat foods that are high in carbohydrates (sweets and starches).
    a. Always
    b. Almost always
    c. Frequently
    d. Sometimes
    e. Seldom, or I don't binge

22. Compared to most people, my ability to control my eating behavior seems to be:
    a. Greater than others' ability
    b. About the same
    c. Less
    d. Much less
    e. I have absolutely no control

23. One of your best friends suddenly suggests that you both eat at a new restaurant buffet that night. Although you'd planned on eating something light at home, you go ahead and eat out, eating quite a lot and feeling uncomfortably full. How would you feel about yourself on the ride home?
    a. Fine, glad I'd tried that new restaurant
    b. A little regretful that I'd eaten so much
    c. Somewhat disappointed in myself
    d. Upset with myself
    e. Totally disgusted with myself

24. I would presently label myself a "compulsive eater" (one who engages in episodes of uncontrolled eating).
    a. Absolutely
    b. Yes
    c. Yes, probably
    d. Yes, possibly
    e. No, probably not

25. What is the most weight you've ever lost in 1 month?
    a. Over 20 pounds
    b. 12-20 pounds
    c. 8-11 pounds
    d. 4-7 pounds
    e. Less than 4 pounds

26. If I eat too much at night, I feel depressed the next morning.
    a. Always
    b. Almost always
    c. Frequently
    d. Sometimes
    e. I don't eat too much at night

27. Do you believe that it is easier for you to vomit than it is for most people?
    a. Yes, it's no problem at all for me
    b. Yes, it's easier
    c. Yes, it's a little easier
    d. About the same
    e. No, it's less easy

28. I feel that food controls my life.
    a. Always
    b. Almost always
    c. Frequently
    d. Sometimes
    e. Seldom or never

29. I feel depressed immediately after I eat too much.
    a. Always
    b. Frequently
    c. Sometimes
    d. Seldom or never
    e. I don't eat too much

30. How often do you vomit in order to lose weight?
    a. Less than once a month (or never)
    b. Once a month
    c. 2-3 times a month
    d. Once a week
    e. 2 or more times a week

31. When consuming a large quantity of food, at what rate of speed do you usually eat?
    a. More rapidly than most people have ever eaten in their lives
    b. A lot more rapidly than most people
    c. A little more rapidly than most people
    d. About the same rate as most people
    e. More slowly than most people (or not applicable)

32. What is the most weight you've ever gained in 1 month?
    a. Over 20 pounds
    b. 12-20 pounds
    c. 8-11 pounds
    d. 4-7 pounds
    e. Less than 4 pounds

33. Females only: My last menstrual period was:
    a. Within the past month
    b. Within the past 2 months
    c. Within the past 4 months
    d. Within the past 6 months
    e. Not within the past 6 months

34. I use diuretics (water pills) to help control my weight.
    a. Once a day or more
    b. 3-6 times a week
    c. Once or twice a week
    d. Once a month or less (or never)

35. How do you think your appetite compares with that of most people you know?
    a. Many times larger than most
    b. Much larger
    c. A little larger
    d. About the same
    e. Smaller than most

36. Females only: My menstrual cycles occur once a month:

a. Always
b. Usually
c. Sometimes
d. Seldom
e. Never

37. My weight has changed a lot in the past 6 months because of my inconsistent eating and poor willpower to diet steadily.

a. Very true of me
b. Quite true of me
c. Only somewhat true of me
d. Generally not true of me
e. Not at all like me

Appendix J

Structured Clinical Interview for DSM-III-R -- Eating Disorders (SCID-I)

Anorexia Nervosa

1. Do you ever diet?

If yes:

Tell me about some of the ways of losing weight you have tried (skipping meals; fasting for 24 hours or more; exercise; how much; how often?)

What is the most weight you have ever lost?

(What weight did you start out at? How tall were you then? What was your weight goal? What was the weight you finally got down to?

Are you trying hard right now to lose weight? (What weight did you start out at? What is your goal weight right now? How long have you been working on the current weight goal?

2. Have you ever argued with anyone, because they were trying to convince you that you needed to eat more and gain weight?

Criteria:

A. Refusal to maintain body weight over a minimal normal weight for age and height, e.g., weight loss leading to maintenance of body weight 15% below that expected; or failure to make expected weight gain during period of growth, leading to body weight 15% below that expected.

3. Has anyone ever threatened to take you to the doctor or a treatment program because they were worried that your weight was too low?

*Note: If the person answers "No" to #2 or #3 above, skip to the next page and begin again at **********.

If "Yes" to either #2 or #3 above, ask the following in present tense if the person may currently be anorexic; otherwise, use past tense:

When did this disagreement over your weight occur? (Has this been quite recent?)

(Were you trying to diet and lose weight?)

How tall are/were you (then)? (If possibly anorexic at this time, ask "How tall are you right now"?)

Tell me how much you weigh(ed) (at the time people were most concerned about your weight).

What was the lowest weight you reached (during the period when others were trying to get you to gain weight)

When people are/were trying to talk you into gaining weight, did you basically ignore them and quietly go on with your diet, losing weight as you saw fit?

When you were dieting and people felt you were too thin, did your periods ever become irregular or stop altogether for a few months in a row?

D. Absence of at least three consecutive menstrual cycles when expected to occur (primary or secondary amenorrhea). (A woman

If Yes: how many months did you skip in a row? Were you pregnant at the time? Have you usually been more regular when you weren't dieting or losing weight?	is considered to have amenorrhea if her periods occur only following hormone, e.g., estrogen administration.)
**********	
Do you ever have the sensation of feeling fat, even though friends or relatives say you aren't fat at all?	C. Disturbance in the way in which one's body weight, size, or shape is experienced, e.g., the person claims to "feel fat" even when emaciated, believes that one area of the body is "too fat" even when obviously underweight.
If yes: Tell me more about what they said, and how you try to judge how fat you are. Do you ever feel that particular areas of you body are fat and that you should diet to deal with these fat areas?	
Are (were) you fearful of gaining weight?	B. Intense fear of gaining weight or becoming fat, even though underweight.
If yes: On a scale running from 1 to 10, where 1 is no fear at all, and 10 is extremely fearful, what number represents(ed) your fear of gaining weight?	
<u>Bulimia Nervosa</u>	Criteria:
Do you ever go on eating binges; that is, eating a great deal of food in a short period of time?	A. Recurrent episodes of binge eating (rapid consumption of a large amount of food in a discrete period of time.
If No, go to ********** below and begin again.	
If Yes, continue with:	

a) Give me an example of one of these eating episodes.

b) Give me a listing of what you eat and how much of it you eat. (How much of that do you eat? About how much of this do you eat?)

c) What causes you to stop eating?

d) What is the most you have ever consumed during one of these sprees?

e) Do you find that you tend to have these binges at certain times of the day, more than other times?

f) I need to have some idea of how long it takes for you to go through an eating spree or binge, from start to finish. (Give me a specific example that you recall.)

g) On a scale from 1 to 10 where 1 is being totally in control, and 10 is completely without control, what number represents the amount of control you feel over your eating during an eating binge?

B. A feeling of lack of control over eating behavior during the eating binges.

(Do you feel you could stop eating at any time you wanted or do you feel like you are mechanically eating and can't easily stop?)

h) How many months have you had eating binges now; about how often do they occur in a typical week?

D. A minimum average of two eating episodes a week for at least three months.

****

(Have subject elaborate as needed on items a - e below e.g., how often, how much, how regularly, etc.)

Do you do any of the following to help you lose weight:

C. The person regularly engages in either self-induced vomiting, use of laxatives or diuretics, strict dieting, or vigorous exercise in order to prevent weight gain.

a. Take laxatives or diet pills
b. Skip meals or go on fasts
c. Cut back on food for 24 hours or more
d. Vomit
e. Exercise

How do you feel about your weight right now?

E. Persistent overconcern with body weight and shape.

Do you worry very much about your weight?

If no, go to ********** below

If yes:

a. On a scale from 1 to 10 where 1 is no worry at all and 10 is extreme worry about your weight, what number represents the amount you worry about your weight?

b. Do you feel that you worry too much during the day about your weight, or wish you weren't so worried about it?

c. Have you found that worry about your weight distracts you from doing other things that you should be doing? Does it interfere in the normal routine of your life?

****

How concerned are you about the shape of your body or the size of different parts of your body?

On a scale from 1 to 10 where
1 is no worry at all and 10 is
extreme worry about your body size
or shape, what number represents
the amount you worry?

Do you ever get the feeling that
you worry too much about how your
body is shaped or how it looks?

Appendix K

Extended Objective Measure of Ego Identity Status -- 2 (EOMEIS-2)

Read each item and indicate to what degree it reflects your own thoughts and feelings. If a statement has more than one part, please indicate your reaction to the statement as a whole. Indicate your answer on the answer sheet by choosing one of the following items. Do not write on the questionnaire itself.

A = strongly agree
B = moderately agree
C = agree
D = disagree
E = moderately disagree
F = strongly disagree

1. I haven't chosen the occupation I really want to get into, and I'm just working at whatever is available until something better comes along.

2. When it comes to religion I just haven't found anything that appeals and I don't really feel the need to look.

3. My ideas about men's and women's roles are identical to my parents'. What has worked for them will obviously work for me.

4. There's no single "life style" which appeals to me more than another.

5. There are a lot of different kinds of people. I'm still exploring the many possibilities to find the right kind of friends for me.

6. I sometimes join in recreational activities when asked, but I rarely try anything on my own.

7. I haven't really thought about a "dating style." I'm not too concerned whether I date or not.

8. Politics is something that I can never be too sure about because things change so fast. But I do think it's important to know what I can politically stand for and believe in.

A = strongly agree
B = moderately agree
C = agree
D = disagree
E = moderately disagree
F = strongly disagree

9. I'm still trying to decide how capable I am as a person and what jobs will be right for me.

10. I don't give religion much thought and it doesn't bother me one way or the other.

11. There are so many ways to divide responsibilities in marriage, I'm trying to decide what will work for me.

12. I'm looking for an acceptable perspective for my own "life style" view, but I haven't really found it yet.

13. There are many reasons for friendship, but I choose my close friends on the basis of certain values and similarities that I've personally decided on.

14. While I don't have one recreational activity I'm really committed to, I'm experiencing numerous leisure outlets to identify one I can truly enjoy.

15. Based on past experiences, I've chosen the type of dating relationship I want now.

16. I haven't really considered politics. It just doesn't excite me much.

17. I might have thought about a lot of different jobs, but there's never really been any question since my parents said what they wanted.

18. A person's faith is unique to each individual. I've considered and reconsidered it myself and know what I can believe.

19. I've never really seriously considered men's and women's roles in marriage. It just doesn't concern me.

20. After considerable thought I've developed my own individual viewpoint of what is for me an ideal "life style" and don't believe anyone will be likely to change my perspective.

A = strongly agree
B = moderately agree
C = agree
D = disagree
E = moderately disagree
F = strongly disagree

21. My parents know what's best for me in terms of how to choose my friends.

22. I've chosen one or more recreational activities to engage in regularly from lots of things and I'm satisfied with those choices.

23. I don't think about dating much. I just kind of take it as it comes.

24. I guess I'm pretty much like my folks when it comes to politics. I follow what they do in terms of voting and such.

25. I'm really not interested in finding the right job; any job will do. I just seem to flow with what is available.

26. I'm not sure what religion means to me. I'd like to make up my mind but I'm not done looking yet.

27. My ideas about men's and women's roles have come right from my parents and family. I haven't seen any need to look further.

28. My own views on a desirable life style were taught to me by my parents and I don't see any need to question what they taught me.

29. I don't have any real close friends, and I don't think I'm looking for one right now.

30. Sometimes I join in leisure activities, but I really don't see a need to look for a particular activity to do regularly.

31. I'm trying out different types of dating relationships. I just haven't decided what is best for me.

32. There are so many different political parties and ideals. I can't decide which to follow until I figure it all out.

A = strongly agree
B = moderately agree
C = agree
D = disagree
E = moderately disagree
F = strongly disagree

33. It took me a while to figure it out, but now I really know what I want for a career.

34. Religion is confusing to me right now. I keep changing my views on what is right and wrong for me.

35. I've spent some time thinking about men's and women's roles in marriage and I've decided what will work best for me.

36. In finding an acceptable viewpoint to life itself, I find myself engaging in a lot of discussions with others and some self exploration.

37. I only pick friends my parents would approve of.

38. I've always liked doing the same recreational activities my parents do and haven't ever seriously considered anything else.

39. I only go out with the type of people my parents expect me to date.

40. I've thought my political beliefs through and realize I can agree with some and not other aspects of what my parents believe.

41. My parents decided a long time ago what I should go into for employment and I'm following through with their plans.

42. I've gone through a period of serious questions about faith and can now say I understand what I believe in as an individual.

43. I've been thinking about the roles that husbands and wives play a lot these days, and I'm trying to make a final decision.

44. My parents' views on life are good enough for me; I don't need anything else.

A = strongly agree
B = moderately agree
C = agree
D = disagree
E = moderately disagree
F = strongly disagree

45. I've had many different friendships and now I have a clear idea of what I look for in a friend.

46. After trying a lot of different recreational activities I've found one or more I really enjoy doing by myself or with friends.

47. My preferences about dating are still in the process of developing. I haven't fully decided yet.

48. I'm not sure about my political beliefs, but I'm trying to figure out what I can truly believe in.

49. It took me a long time to decide but now I know for sure what direction to move in for a career.

50. I attend the same church as my family has always attended. I've never really questioned why.

51. There are many ways that married couples can divide up family responsibilities. I've thought about lots of ways, and now I know exactly how I want it to happen for me.

52. I guess I just kind of enjoy life in general, and I don't see myself living by any particular viewpoint to life.

53. I don't have any close friends. I just like to hang around with the crowd.

54. I've been experiencing a variety of recreational activities in hopes of finding one or more I can really enjoy for some time to come.

55. I've dated different types of people and know exactly what my own "unwritten rules" for dating are and who I will date.

56. I really have never been involved in politics enough to have made a firm stand one way or the other.

A = strongly agree
B = moderately agree
C = agree
D = disagree
E = moderately disagree
F = strongly disagree

57. I just can't decide what to do for an occupation. There are so many that have possibilities.

58. I've never really questioned my religion. If it's right for my parents it must be right for me.

59. Opinions on men's and women's roles seem so varied that I don't think much about it.

60. After a lot of self-examination I have established a very definite view on what my own life style will be.

61. I really don't know what kind of friend is best for me. I'm trying to figure out exactly what friendship means to me.

62. All of my recreational preferences I got from my parents and I haven't really tried anything else.

63. I date only people my parents would approve of.

64. My folks have always had their own political and moral beliefs about issues like abortion and mercy killing, and I've always gone along accepting what they have.

Appendix L

Structured Clinical Interview for DSM-III-R -- Borderline Personality(SCID-II)

For all questions, score as follows:
1 = absent or false
2 = subthreshold
3 = threshold or true

1. Do your relationships with people you really care about have lots of ups and downs? Tell me about them. (Were there times when you thought they were everything you wanted and then other times when you thought they were terrible? How many relationships were like this?)	1. A pattern of unstable and intense relationships characterized by alternating between extremes of overidealization and devaluation. Either one prolonged relationship or several briefer relationships.
2. Have you often done things impulsively? What kinds of things? How about... ...buying things you really couldn't afford? ...having sex with people you hardly know, or "unsafe sex"? ...drinking too much or taking drugs? ...driving recklessly? ...shoplifting?	2. Impulsivity in at least two areas that are potentially self-damaging, e.g., spending, sex, substance use, shoplifting, reckless driving. (Several examples indicating a pattern of impulsive behavior -- not necessarily limited to above examples.)

If yes to any of the above: Tell me about that. How often does it happen? What kinds of problems has it caused?	
3. Are you a "moody" person? Tell me about that. (How long do your "bad" moods last? How often do these mood changes occur?)	3. Affective instability: marked shifts from baseline mood to depression, irritability, or anxiety, usually lasting a few hours and only rarely more than a few days.
4. Do you often have temper outbursts or get so angry that you lose control? Tell me about this. Do you hit people or throw things when you get angry. Tell me about this. (Does this happen often?) Do even little things get you very angry? Does this happen often?	4. Inappropriate, intense anger or lack of control of anger, e.g., frequent displays of temper, constant anger, recurrent physical fights. (Several examples, or one example and acknowledges trait.)
5. Have you tried to kill yourself or threatened to do so?	5. Recurrent suicidal thoughts, threats, or gestures.
6. Are you different with different people or in different situations so that you sometimes don't know who you really are? Give me some examples of this. (Do you feel this way often?) Are you often confused about your long-term goals or career plans?	6. Marked and persistent identity disturbance manifested by uncertainty in at least two of the following: self-image, long-term goals or career choice, type of

	friends desired, preferred values.
Tell me more about that. Do you often change your mind about the type of person you want for your best friends?	
Tell me more about that.	
Are you often not sure about what your real values and beliefs are?	
Tell me more about that.	
7. Do you often feel bored or empty inside.	7. Chronic feelings of emptiness or boredom.
Tell me more about this.	Acknowledges often feeling empty or bored.
8. Have you often become very upset when you thought that someone you really care about was going to leave you?	8. Frantic efforts to avoid real or imagined abandonment.
What have you done? (Do you plead with him/her or try to prevent him/her from leaving?)	
Do you become particularly anxious if you must be alone for a significant period of time?	

VITA

Mary Denise Sparks

213 Claymore Dr.
Lafayette, La 70503
(318) 989-9868

Education

Hendrix College, Conway, Arkansas. BA with Honors
Major: Economics and Business - 1979. Second major in Psychology completed in 1985.

Columbia University, Teachers College, New York, New York.
MA in Philosophy and Education - 1981.

Utah State University, Logan, Utah. Candidate for Ph.D. in Psychology, professional-scientific program in combined clinical, counseling, and school -- clinical emphasis; full APA accreditation.

Tulane University Medical School, New Orleans, Louisiana.
Pre-doctoral Internship; full APA accreditation.
September 1991 - August 1992.

Honors and Awards

Honor Graduate, Hendrix College - 1979.

Recipient of Tuition Assistance Scholarship, Columbia University, Teachers College - 1980-81.

Professional Experience

- Clinical Associate, Lafayette Psychology Center,
September 1992 to present.
Individual therapy
Family therapy
Group therapy
Psychological assessments

- Program Clinician, Cypress Psychiatric Hospital, Lafayette, LA, 1990-91. Assigned to short-term, adult psychiatric unit.
  - Group therapy
  - Family therapy
  - Individual therapy
  - Psychosocial assessments
  - Educational groups
  - Case management

- Graduate Assistant, Counseling Center, Utah State University, 1989-90.
  - Individual therapy
  - Group therapy
  - Marital therapy
  - Intake interviews
  - Outreach programming

- Teaching Assistant in Educational Psychology, Utah State University, 1988-89.
  - Teach laboratory class for secondary education majors
  - Grade laboratory assignments and examinations

- Area Director, Housing and Residential Life, Utah State University August 1986 - June 1988.
  - Training and Supervision of Resident Assistants and Hall Directors

- Area Coordinator, Arkansas Governor's School for Gifted and Talented High School Seniors - Summers 1985 and 1986.
  - Responsible for all aspects of co-curricular programming

- Associate Director, Hendrix-Murphy Foundation Programs in Literature and Language, Hendrix College - 1982-86.
  - These endowed programs feature participants of national and international stature.

- International Student Advisor, Hendrix College - 1983-86.

- Coordinator of Campus Activities, Hendrix College - 1981-86.
  New Student Orientation Coordinator
  Volunteer's Clearinghouse Coordinator
  Coordinator of college-wide Special Events programming

- Residence Hall Director, Hendrix College - 1979-80; 1981-83.
  Co-educational and all-women's halls

Professional Membership

American Psychological Association -- Student affiliate

Paper Presentation

Arkansas Undergraduate Psychology Symposium. Topic: "Attitude Toward Abortion and Dominance/Submission," 1985.

Invited Addresses

Our Lady of Lourdes Medical Center, Lafayette, LA. Four-part Series: Stress Management.

University of Southwestern Louisiana, Department of Continuing Education, Lafayette, LA. Seminar: Dealing with the Stress of Difficult People.

Southwest District of the Louisiana Medical Record Association. Topic: Diagnosis and Treatment of Eating Disorders.

Displaced Homemakers of Lafayette, LA. Topic: Eating Disorders.

St. Landry Parish School Counselors. Topic: Eating Disorders.

Research

Dissertation: "The Relationship between Eating Disorders and Ego Identity Development."